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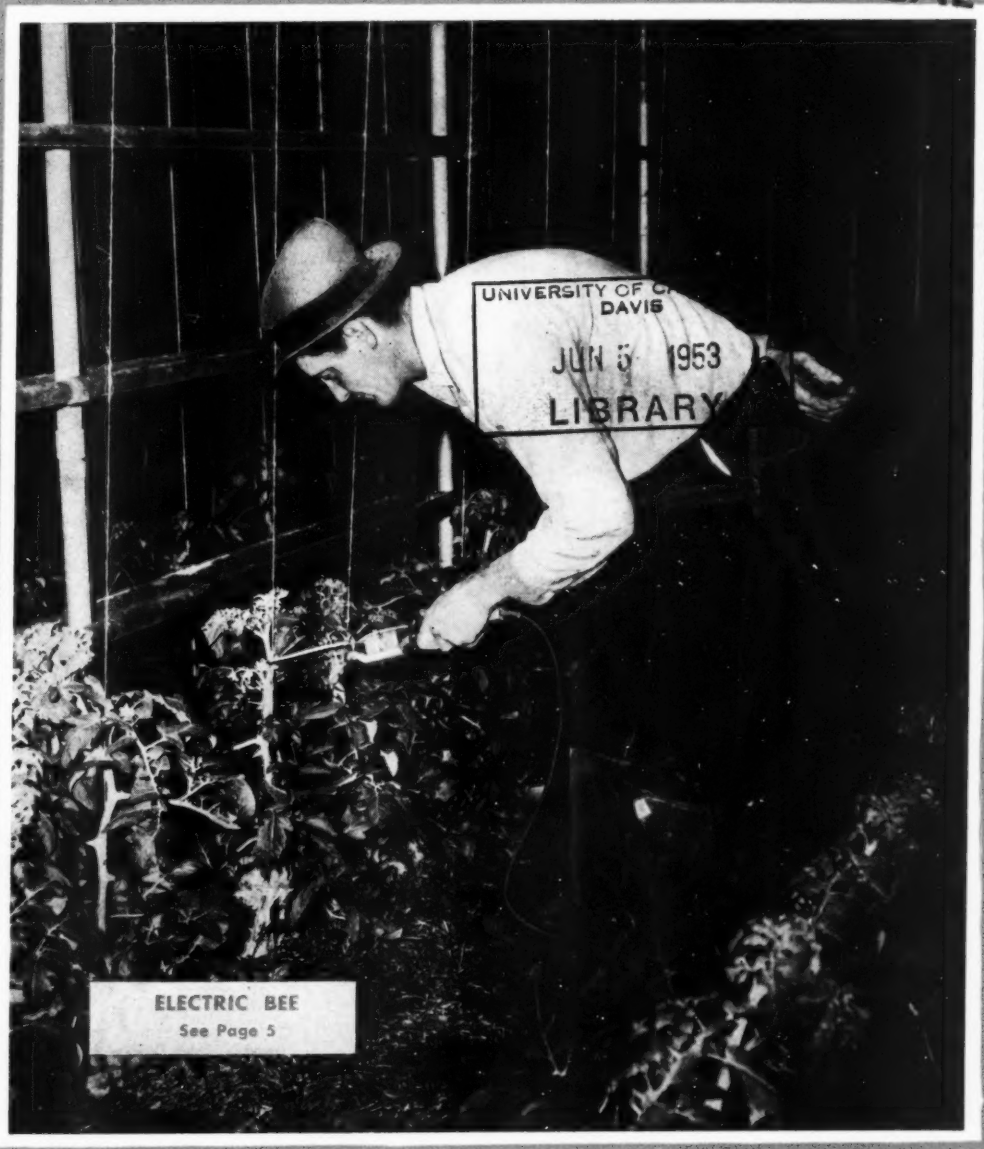
ELECTRICITY ON THE FARM *Magazine*

APRIL, 1953

Color Grader for Eggs . . .
Clean Clothes Clinic . . . .
Under Udder Heat . . . . .
Ten Bale Hay Hoist . . . .
Dishwashers Curb Disease .

26th Year
PERIODICAL



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GENERAL ELECTRIC FarmNews

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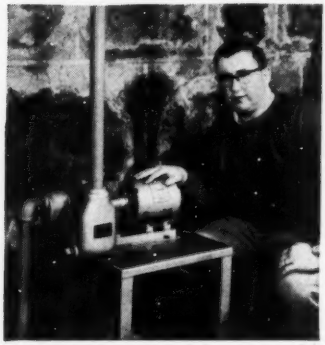
MORE POWER TO THE AMERICAN FARMER through more electricity on the farm

MORE PROTEIN IN HAY WITH CROP DRIER!

SELF-PRIMING HIGH AND DRY SUMP PUMP KEEPS BASEMENT DRY

Designed for a trouble free long life and dependable service.

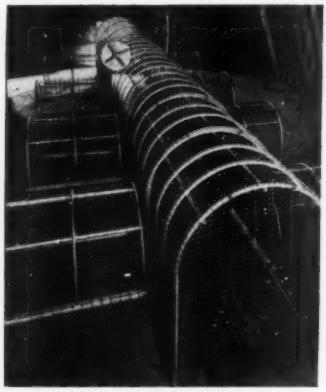


Jack L. Leidigh shows his sump pump. Notice that pump and motor are mounted high where even a flash flood could not touch them.

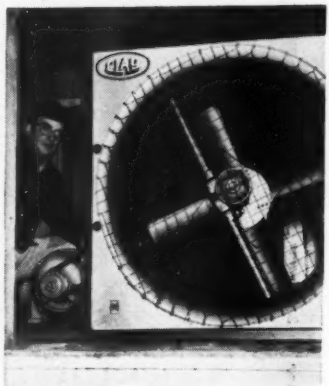
Jack L. Leidigh of R D 1, Jeromesville, Ohio is sure that his basement will stay dry. Here's what he has to say: "Trouble free service is what my sump pump has given me. The pump never needs priming or other attention and my basement is always dry." The pump also takes care of water from Mrs. Leidigh's washing machine.

The pump is of patented self-priming design. A dependable G-E motor supplies the power. For more information check "Sump Pump" on coupon to the right.

Iowa farmer finds hay made with crop drier yields much more protein, lowers feed costs.



Pre-fabricated steel duct system in Mr. Schmitz's mow. Five feet long laterals on sides of main duct assure even air penetration to mow walls.



Mr. Schmitz with his power unit which moves 21,000 cubic feet of air per minute. Cost per ton of hay dried figured less than a dollar.

"My crop drier certainly showed me the way to make top quality hay," states Lawrence Schmitz, dairy farmer near Waterloo, Iowa. Tests made for protein content on Mr. Schmitz's farm showed startling results. His first cutting alfalfa made on his portable crop drier tested 16.4%. Second cutting alfalfa from this same field which was field cured tested only 9.65%.

Mr. Schmitz estimates that the savings in protein will pay for his drier in two years. Mechanically dried hay has a better color and taste. Forced air carries away heat which prevents hot spots in hay.

Unit is powered with 5 hp G. E. motor. For more information check "Crop Drier" on coupon below.

SCALDING MACHINE SAVES LABOR FOR OHIO POULTRY HOUSE

Eliminates guesswork; means easier plucking, higher quality poultry

Euclid Poultry of Euclid, Ohio uses a poultry scalding machine to save labor and to insure that its customers get birds which have been picked properly. Here is what Andy Spevak has to say: "This scalder is a big labor saver. Uniform scalding means easier picking and higher quality poultry. I'm completely sold on this unit."

The scalder handles as many as 18 fowls at one time. It also scalds ducks, geese, or turkeys.

After scalding, birds are picked on a labor-saving picker. Feathers literally fly as rubber fingers completely pick birds without bruising. Power is supplied by G-E motors. Check "Poultry Scalder and Poultry Picker" on coupon.

Andy Spevak operates the poultry scalding machine. Scalding is automatically timed. Thermostat keeps water at correct temperature.

General Electric Company
Section 671-27C, Schenectady 5, N. Y.

I would like additional information on the following equipment.

- ☐ Crop Drier
- ☐ Sump Pump
- ☐ Poultry Scalder & Poultry Picker
- ☐ How to Choose Your Motor

NAME_____

ADDRESS_____

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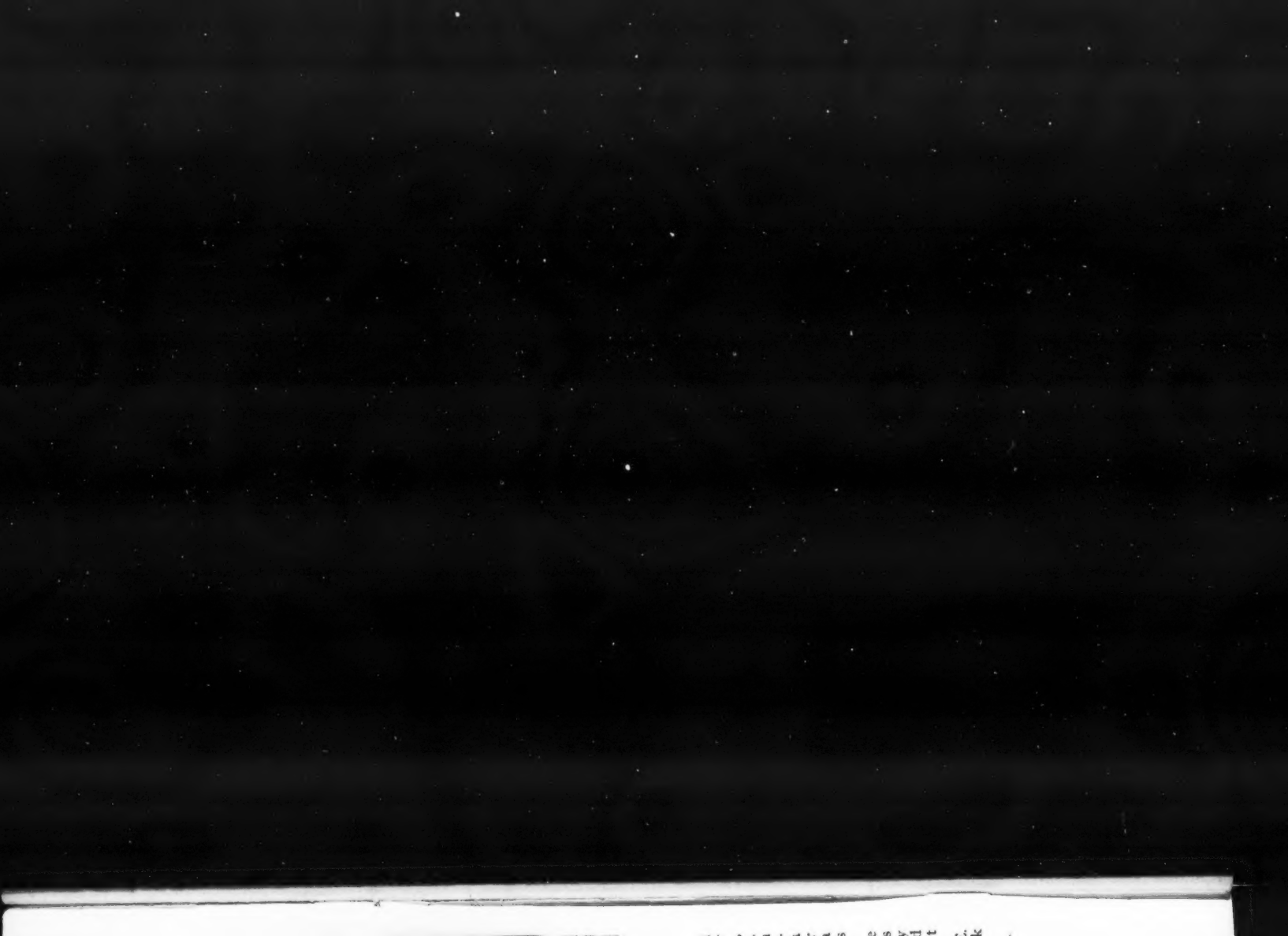

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Editor's Chat

BE YOUR WATER BOSS

Water, soil, air and sunshine are the four great groups of physical forces that determine the growth of plants. For maximum production all of these must be present and active. And all of them are adequate in most cases except water.

The source of all our water is rain or snow. No place is known where some rain does not fall at some time during the year. However, the quantity that falls varies greatly! Over the so called deserts the annual rainfall is often less than five inches, while in various places near the seashore or among the mountains, the annual rainfall exceeds 100 inches and occasionally reaches 600 inches or more as at Assam, India. But, let's get back to the United States. Here in this country going eastward from the Pacific seaboard the difference in seasonal rainfall is very pronounced. Our Western farmers found out right at the start that irrigation was essential even for minimum production. Without irrigation, or where there is less than 20 inches of rainfall a year the type of operation is appropriately called "dry farming."

Sometime ago, I read about a high school boy that was knocked unconscious while practicing football. The strange part of the story was that one of his fellow players was not the cause of his calamity. He ran into one of the goal posts. When he was revived, the coach asked him for an explanation. Here was his answer. "I seem to run faster with my eyes closed." This may sound ridiculous but isn't it comparable to our approach for successful crops year after year? We plant our seeds in good soil in the spring. And we are very sure of an abundant supply of sun and air for making that seed produce. But, we are not so sure that the right amount of rain is going to fall, and we are even less sure about *when* it's going to fall.

Down in North Carolina the bees, not unlike bees anywhere else, I guess don't seem to be able to change their way of doing things once they have started. W. H. Stephen, the extension specialist down there said they are much like people, "Once they learn to do anything a certain way they continue to do it that same way. For instance, once a hive of bees start working clover for honey they continue to in spite of the fact that a better source of nectar becomes available." Stephen has found a remedy for this bad bee habit. He "smokes" them in their hive with a little laughing gas. This makes the bees forget everything they were doing before and they start life anew. Could it ever be said that we might be like the bees collecting nectar?

Stephen's state, as well as many others, was hard hit last year with a severe drought. You will recall that several localities were even classified as disaster areas. Yet, the streams were flowing. Water was available. It just wasn't at the right place. Still the total rainfall for the year was about average. That *average* didn't do much good though last summer.

More and more farmers in the East, Middle West and South—in the humid regions—are installing irrigation systems each year. They are making money by it; some of them, a pile of money. If you go in for irrigation, don't wait until the crop is suffering before you think about how you are going to irrigate and where you are going to get the pump, motor, pipe, sprinklers, etc. Irrigation takes planning. Go into irrigation as a business. Get ready early.

Remember, it is much easier to minister to the living than to raise the dead!

Jim Rilatt

ELECTRICITY ON THE FARM *Magazine*

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Imagine! A Kelvinator Electric Range only 30 inches wide with the

NEW "GREAT SCOT" OVEN!

IT'S A WHOLE ROAST WIDER THAN MOST!

Now you can have everything you've ever wanted in a range . . . plus automatic cooking . . . for only $229.95*

This oven is large enough to cook even the biggest meal, yet the range itself is no wider than a card table.

Here's the range value of the year! This new, compact Kelvinator with its "Great Scot" oven offers you de luxe features found in far more expensive ranges but it's priced among the lowest. Built-in electric clock and oven-timer lets you cook complete meals . . . away from home. It starts, times and stops cooking operations automatically.

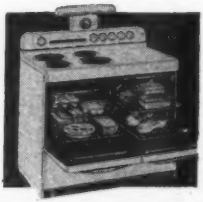
Exclusive "Heat-Lock" oven door seals heat inside for better baking results . . . greater economy . . . and a cool kitchen. Oven preheats to 350° in 5 minutes. Radiant-heat broiler cooks steaks tender and juicy like an open charcoal fire. High-speed surface units have 7 exact cooking heats. See it at your Kelvinator dealer's!

Kelvinator Electric Range Model ER-353 (illustrated) costs only $229.95*

*Manufacturers' suggested retail prices including delivery.

All-new 1953 Kelvinator Electric Ranges! You can select a Kelvinator range to meet your exact requirements . . . from a complete new line of models that fit every budget. Choose from both single and double-oven styles in a wide range of prices . . . with a wide variety of new features.

There are models with Kelvinator's "Automatic Cook" that minds your cooking while you're away. Some have "Scotch Kettle" deep-well cookers . . . Roomy, storage drawers. All have high-speed surface units with 7 exact cooking speeds, giant quick-heat ovens and other Kelvinator features that make cooking easier and better. See your dealer now . . . you can have your new Kelvinator Range for only dimes a day.



Look! Two-oven Range at a One-oven Price! You get extra-large double ovens, super-fast oven preheat, twin broilers, four high-speed 7-heat surface units. Here's convenient cooking for biggest farm meals. **Yours for only $276.75*.**

Here's Kelvinator's Top Model! Two super-size ovens, "Automatic Cook" control, new "Picto-Heat" surface controls that tell —in lights—which surface unit, and which area of surface unit is on. Also 7-heat cooking. **Only $379.50*.**

IT'S TIME TO GET Kelvinator

Division of Nash-Kelvinator Corp., Detroit 32, Michigan

and join the Kelvinator Parade to Better Living!

Fans are Greenhouse Helpers

They Improve Ventilation, Reduce Disease and Aid Pollination

By DALE BEE

The control of tomato leaf mold was the main reason Albert and Lawrence Rahn of Cincinnati, Ohio installed fans in their greenhouses. In growing this crop an attempt is made to maintain June weather conditions, as nearly as possible. This creates quite a moisture problem during the winter months and the combination of high humidity and the temperatures maintained are favorable to the growth of the mold. However if the relationship between the temperature and the humidity is changed several times during a 24 hour period the spores seem unable to develop. The fans, therefore, are used for this purpose.

The Rahn greenhouses are about 185′ long. Each house is supplied with three ⅓ HP fans with an air moving capacity of 3000 cubic feet per minute. One of these is located 40′ from the east end of the house. The second is placed halfway between the first fan and the west wall of the house. The third is used as an exhaust fan which is placed about 18″ above the floor in the west wall of the greenhouse.

The fans are operated by individual time switches which gives a lot of flexibility to their operation. The two circulating fans are located overhead and mounted on the framing of the house. The one that operates as an exhaust fan is provided with a shutter and guard to prevent the possibility of accidental contact with it.

The exhaust fan does not necessarily operate whenever the circulating fans are in use. The main purpose, as stated before, is to change the relation between temperature and humidity several times during the day. During certain hours of the day and early morning the fans are operated as much as 50% of the time. Mr. Rahn feels that there is still much to be learned about the correct operation of the fans, but he is of the opinion that within five years most greenhouse operators will be using them.

Besides acting as a control for the leaf mold the fans have supplied the Rahns with several other benefits. In the winter months days are short and many times there is not much sunlight. However during the late fall and winter months several crops of lettuce are raised. Under the conditions at that time of year the lettuce grows very rapidly and becomes extremely tender. The sun can cause burning of the tips of the tender leaves when they are dripping with moisture. Excess moisture will also cause stem rot during this time. By operating the fans the leaves of the lettuce are dried eliminating any tipburn and, as the moisture is removed from the house, stem rot is reduced.

The fans also prevent stratification of air in the house giving more uniform temperatures. Mr. Rahn feels that this results in a definite saving of the fuel needed to heat the houses. The fans circulate the warm air so that the temperature at the plants or at different levels within the house is practically the same. They also get air circulation by using the fans without opening the vents at the top of the houses. This alone can save quite a bit of work as it eliminates the constant adjustment of the ventilators. Actually they have found many days when they have not needed to touch the ventilators at all.

Albert Rahn and his son, Lawrence (bending over) find that fans prevent leaf burn and damping off in their lettuce crops. There are two more fans in this section of their greenhouse. One is halfway between the fan shown here and the far end of the house. The other is located 18 inches above the floor in the far end and is used as an exhaust fan. Each of the three fans is driven by a ½ hp motor and has a capacity of 3000 cfm. A time switch controls the operation of each fan. This makes it possible to operate them independently of one another and use them in various combinations.

About the Cover

There is one other advantage found in the operation of fans in the greenhouse. The circulation of air seems to aid in the pollination of certain plants. And, if you find that Mother Nature needs a little more help than just the fans can give her, you can use an electric vibrator to stimulate the pollination. You might call such an instrument an "electric bee." One of them is shown, on our cover, in use at the Meyer Brothers farm near West Chester, Ohio.

Corn is scooped onto a grading bench where imperfect ears are removed. A portable elevator then carries it into a drying bin.

Upgrade Your Crop for Profit

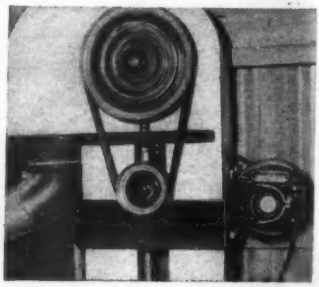
Motors Transform This Seed into a Certified Product

By CURTIS KENNEDY

How to get more of the final price of a farm product is something for every farmer to explore. The answer usually lies in further processing of the crop. In the case of corn, processing may result in the manufacture of meal, starch, or syrup. Or, if we use some of our four-footed friends, beef steak or pork chops may be the finished product. Omer Sears of Lapel, Indiana goes in for the latter. He's a firm believer in top quality and he has many blue ribbons to attest to his ability to produce it. Back in 1917 was when he first established his quality line with a pure bred bull and heifer. Since that time they have been the source of much personal satisfaction and increased farm revenue.

However, he was not satisfied that he should stop there. Looking for other possibilities he became interested in hybrid corn. As a result of an agricultural conference, which he attended at Purdue in 1935, he bought enough of the new seed to plant 1½ acres to start the venture. The next year he planted five acres and in the following year he built a 250 bushel drying house and dried his corn with a domestic warm air furnace and fan. This end of his business continued to grow and during the next 11 years the building was added to and remodeled several times. However in November of 1948 the seed house burned, supposedly due to an overheated furnace, destroying all of his certified oats and soybeans and all of his corn crop except for 12 acres.

But, by that time the business was well established and Mr. Sears replaced the buildings with an all steel 1700 bushel drying house and a 5,000 bushel capacity seed processing and storage house. The latter was built of cement block and steel to minimize any possible fire hazard. It has also been designed so that electric motors take care of the entire job of processing.



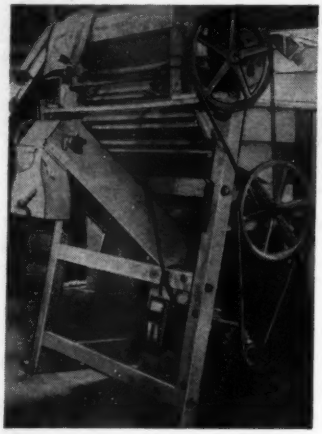
Above: Here is the delivery end of the 1 HP bucket elevator that carries the shelled corn to the top of the processing building. **Left:** This 5 HP blower delivers heated air through a canvas duct to a permanent metal duct along the side of the drying building. From there, the air passes up through the corn. Between 60 and 72 hours are required to bring the moisture down to 14 percent.

The processing of the corn it-

self is accomplished by the use of standard equipment. It is more of a handling problem than anything so it's easy to see why motors play such an important part. Let's take a look and see what actually happens.

First the corn is unloaded from the wagon onto a grading bench which is 24′ long and has a moving belt driven by a ⅓ HP

Next it is graded for width and thickness (machines at right). Ten different selections are made and each of these lots is graded for length by machine at left.



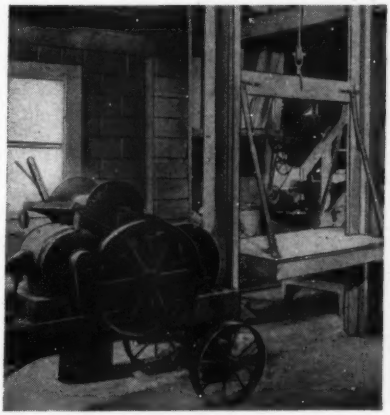
First the corn flows down through this cleaning machine.

motor. From two to six women stand along the bench and sort and pick out imperfect ears. From there the corn is raised by a 16′ portable elevator driven by another ⅓ HP motor which delivers the corn to the drying bin.

The drying is accomplished by means of a 5 HP indirect heat crop drier. Warm air is forced from the drier through the canvas duct into a permanent metal duct running along the outside of the corn drying building. It takes about 72 hours to reduce the moisture content from 30% down to 14% and approximately 60 hours to dry corn with 25% moisture down to 14%. The cost of drying the corn runs about 16¢ per bushel. When dry the corn self feeds from the bin into a sheller. From there it is taken by truck to the processing building.

There is a 1 HP vertical bucket elevator running from the ground floor up to the top of the processing house. This handles the corn three times before the processing is complete. The first time the corn is elevated it feeds down by gravity to a 1 HP motor driven cleaning machine. After passing through this, it returns to the elevator and is again taken to the top floor where, by gravity, it feeds down into two ½ HP motor driven graders which sort it for width and thickness. Ten different selections on these dimensions are made. From there the individual lots pass through a length grader which is driven by a ⅓ HP motor. This completes the sorting and the corn is again carried up to the top by the bucket elevator from which it flows down to a treating bin. This machine is driven by another ⅓ HP motor and the corn is bagged directly at this point. Identifying tags are attached to the bags and a platform elevator operated by a 3 HP motor driven hay hoist carries them up to the top floor for final storage.

It almost looks as though the finished product should carry a tag entitled "electrified" as well as "certified." It certainly would be a tough job to process the corn without those motors. Actually by using electrical equipment wherever possible, Mr. and Mrs. Sears are able to operate their 185 acre farm with just one



Above: Finally, the corn passes through a treating machine from which it is bagged. **Left:** Bags of certified seed are carried to storage by this platform elevator. Power is furnished by the 3 HP portable hay hoist which is borrowed from the barn for this purpose.

hired man. They are producing pure bred hogs, cattle, and certified oats, wheat, soybeans, and corn. And all of their produce brings a premium price on the market.

Hay from Pea Vines

Drier Turns Waste Crop into High Quality Feed

By HERBERT JONAS

Clarke's cows prefer this pea vine hay to alfalfa or pasture grasses. State College tests show it rivals alfalfa for protein content and exceeds it for carotene.

Percy Clarke, dairyman near Walla Walla, Washington, has solved the problem of how to make hay from pea vines. Last year, he trucked vines from pea fields as distant as 40 miles from his farm and filled his barn with good quality chopped hay that cost him only $10.00 a ton.

The vines are a by-product of the pea canning industry. Large acreages of wheat land in southeastern Washington and northeastern Oregon are planted to Alaska and Profusion peas on an alternate year basis to afford crop rotation and to supply canneries. After pods are stripped from the plants by viners working in the fields, the pea vines usually go to waste unless used for stock feed.

Clarke found that hauling and feeding fresh-cut vines to his dairy herd worked out fine. The vines made good silage, too. But field curing the vines for hay just didn't work out. Left to dry in the sun, pea vines shatter, discolor and mold before the drying process is complete. The answer, of course, was to cure the vines in a hurry.

The efficient drier which Clarke uses was developed over a period of five years with the assistance of field men from Washington State College and the Washington Farm Electrification Committee. Concrete walls, two feet high, enclose the area under a 30x80-foot drying platform built from 2x4 lumber placed edgewise and spaced two inches apart. Partitions separate the area inside the concrete walls into six air-blast chambers. Each of the air-blast chambers is equipped with an individual electric motor and fan. Five of the motors are of 3-horsepower rating and one is of 5-horsepower rating. The larger motor, however, is a matter of convenience. Clarke had it on hand and used it rather than buy a new, smaller motor.

Last year, Clarke's drier turned out about 100 tons of pea vine hay, and he found his operational cost per ton figured out like this:

Cost of obtaining and hauling vines to drier	$ 3.00
Cost of electricity	1.00
Labor	6.00
Total cost per ton	$10.00

Clarke's dairy herd prefers the dried pea vines to either alfalfa hay or pasture grass. If the barnyard gate to the drier is left open, the cows will drift out of the meadow to nibble dried vines which have fallen to the ground from the drier.

An analysis by the division of animal husbandry at Washington State College shows that forced-dried pea vine hay rivals field-cured alfalfa in protein content, and, of course, excels it in carotene. Alaska peas showed a protein content higher than the Profusion variety. However, the Profusion excelled the Alaska in both fat and calcium content.

The drier consists of a 30' x 80' platform built over six air blast chambers. Each chamber has its own motor driven blower. Five of them are 3 hp units while the sixth uses a 5 hp motor which Clarke had on hand. Pea vines are piled on platform and drying air is forced up through 2 inch spacings between 2 x 4's of which the drying platform is made.

Under Udder Heat

Comfort Zone Provided to Protect Cow's Money Maker

By BRUCE FEARN

Old time cow men used to say "You should never put a cow on concrete". Their reasons for saying this are obvious. There is probably no material as damp, cold, and clammy as concrete. Concrete is a notoriously poor insulator and literally pulls the heat out of anything that touches it. It would give a human the shivers just to think about sleeping on a slab of it.

At Leeside Farm with the warmed cow beds it is a common sight to see all the cows lying down at one time.

Dairymen, recognizing these facts, have been doing things about it—mostly without much success. They have tried wooden blocks, asphalt, and mixing filler materials, such as sawdust, into the concrete. But cleaning, durability and wearing qualities have always brought them back to conventional concrete. The most common effort to provide the cow with a healthful bed is the generous use of bedding. However, the bedding gets pushed around, especially at the udder area, and a good deal of the time the udder is lying unprotected on the cold concrete.

Ed Riley, of Leeside Farm, Lumberville, Pa., thought quite a bit about the problem. Why not warm the cow bed—not heat it—but apply enough warmth to keep it dry and offset the clamminess. He happened to be visiting his neighbor, William Harvey, the day that he was building an under-floor heat brooder using soil heating cable. He immediately saw the similarity and the possibilities. The details of applying the idea to a cow bed followed after some study and the new cow stable at Leeside is equipped with warmed cow beds. The whole cow bed is not warmed—just the udder area. The goal is to keep the concrete dry and to keep the udder from becoming chilled.

The installation is very similar to the under-floor heat brooder. On top of the porous fill, regularly used under the stall area, shiny tar paper was laid the full length of the stable. On top of this a 1½" thickness of insulating concrete was poured. This was 2' wide and next to the gutter. On top of this, three 140' lengths of lead-covered electric heating cable were laid out parallel to the gutter and running the full length of the stable. They were placed 6" apart with the first one 6" from the gutter edge. Over the cables, the regular floor concrete was poured and finished in the usual manner. At each end of the stable, the cables were brought out into junction boxes where the electrical connections were made. They operate on 220 volts.

Two methods of control are available. One is to intermittently apply the current by means of a time switch. The other is to use a regular thermostat with capillary tube and bulb. If the time clock method is used, an interval of 5 minutes on and 25 minutes off should keep the concrete dry. The operator must watch this, however, and alter the intervals to suit the requirements of his barn. Mr. Riley chose the thermostat control. The bulb was placed parallel with and midway between two cables. It was set into the concrete to a depth of 1" and placed so as to lie between two cows. The thermostat itself was placed conveniently on a post and the capillary tube protected against damage. It was set for a temperature of 55 degrees.

Beneficial results in figures cannot yet be given. There is logic in the idea of a comfortable bed and the cows do seem to lie down more and are more relaxed. After a year of experience, Mr. Riley says he is entirely satisfied with the electric installation and has no reason to change his original ideas. He hasn't had any trouble with mastitis.

Every installation will pose its own particular problem. If you plan such an installation you should consult your County Agent or the Rural Representative of your power supplier before going ahead.

This picture was taken at Howard Clark's Edgewood Farm near Glenelg, Md. Heating cable is in the process of being installed in the back edge of the stall platform to provide a warmed area for the cows' udders. Note that one of the two cables is zigzagged to cover a wider area.

Haying Against the Weather

New Equipment and Better Methods Enable Farmers to Laugh at Rain

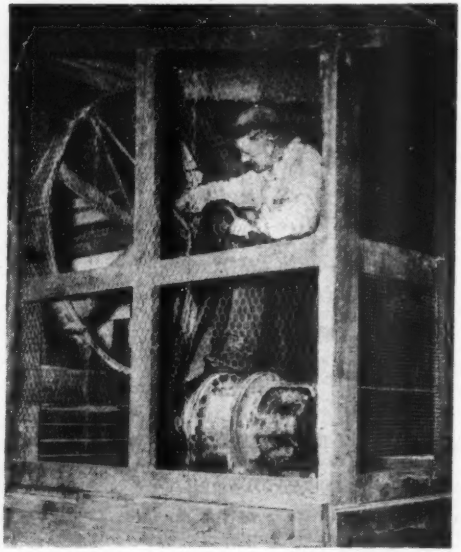
By R. HAROLD ANDERSON

Poor haying conditions in the Spokane, Wash., area this past year caused many hay growers to ask, "How can I beat the weather?" Well might they be concerned, for the weather bureau found that 21 of the 30 days last June had a measurable fall of moisture, all the way from a trace to heavy rains. So many a hay grower was caught with his crops down. Bales of hay propped end to end to catch the stray bits of sunshine were a common sight.

But there were quite a few farmers who were able to beat the weather. They did it in several ways, but all made use of the cheapest farm hand on today's farm—the electric motor. This is the story of how these men were prepared for the rains and able to get their hay in with a minimum of trouble and loss.

Above: Martin Cadruvi demonstrates the ease with which the ½ hp unit is attached to unwind the tarp on the bottom of his hay trucks. As the tarp is pulled backward, chopped hay feeds into the auger of the blower.

Right: John Hansen greases the bearing on the huge fan which takes in air for his hay dryer. The wire cage serves as a shelter for the 7½ hp motor that powers the fan, as well as keeping sparrows and birds from getting involved with the blades. Hansen can cure 200 tons of chopped hay in his 30 x 100 foot hay loft.



Martin Cadruvi, who operates the Superior dairy on route 1, Spokane, cuts his hay crops for silage. It doesn't make much difference to him whether the day is wet or not.

Cadruvi uses a field chopper and self unloading trucks. On the bottom of the truck is stretched a tarp, which is attached to a heavy reel mounted on bearings at the back end of the truck.

After the truck is driven to the blower a ⅓ horsepower motor is attached to the reel. It slowly winds the tarp toward the augar of the blower, steadily spilling the load in. The operation resembles a window shade in simplicity, but it saves a lot of back breaking work. Cadruvi finds this device greatly speeds the unloading, which means dollars in the bank compared to the few pennies it takes to operate the motor.

Bill Knott, route 5, Spokane, figures that his best bet is to get the hay into the barn as quickly as possible. To speed up his operation, he has added a 3 horsepower electric motor to his bale loader, which moves the bales from the hay trucks to the top of the loft. With the motor, he can greatly reduce the time it takes to pile the bales in the loft. And that means he has more time to haul hay when the weather is right, and can get more stored away. Knott had very little trouble haying this last spring. The minute it was ready he was piling it in the loft.

Bill Knott flicks the switch on his bale loader. He has found that the loader saves him a good deal of time when he is in a hurry to get hay into his barn before spring rains.

Barn hay driers are becoming increasingly popular throughout the area, and certainly proved their worth this last year when field curing was delayed by rains.

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RUGGED G-E FILAMENT produces infrared energy like that given off by the sun. Rays pass directly to the chicks from the lamp without heating the air—become heat instantly when absorbed by the chicks' bodies.

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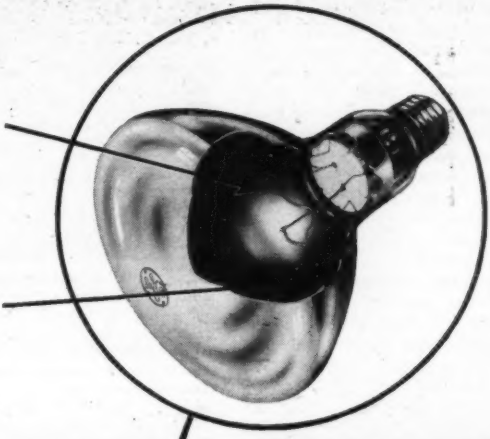

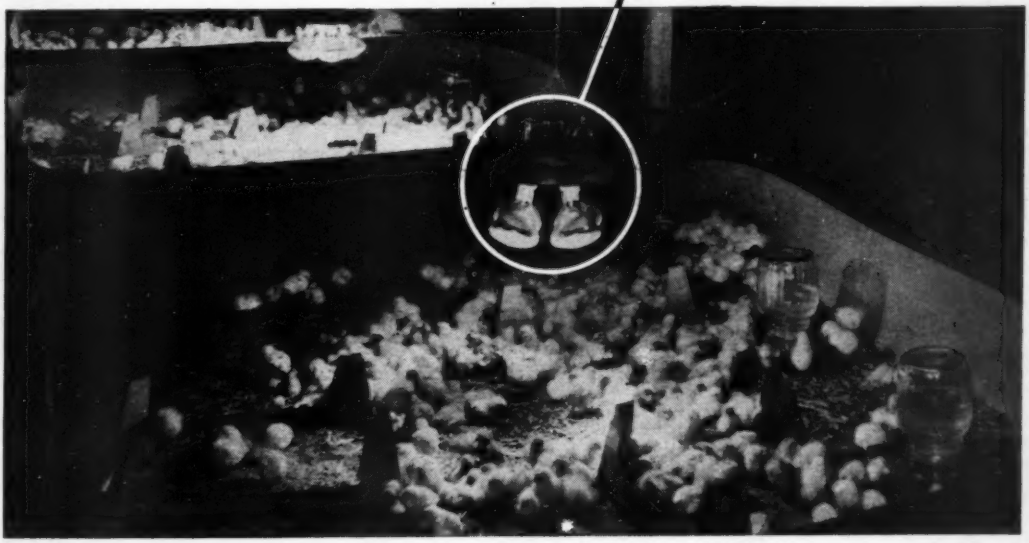

ABOVE IS A TYPICAL BROODING ARRANGEMENT with G-E infrared lamps. Its cost of installation is extremely low. And it's easy to install for large or small poultry operations or to supplement your present brooder system.

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FREE BOOKLET! *To get your copy of General Electric's 8-page booklet "Infrared Chick Brooding", write to General Electric, Dept. 166-EF-4, Nela Park, Cleveland 12, Ohio.*

GENERAL ELECTRIC

Most barn driers consist of a fan driven by an electric motor which draws in outside air. Ducts carry the air underneath the hay, from where it is allowed to circulate and dry the crop.

Oscar Schneiter, a dairy farmer near Blue Creek, Wash., is most enthusiastic over the hay drier which he installed this spring. Nearly 18 tons of hay were chopped into his dairy barn before the rains came. This was done during weather that absolutely refused to properly field cure any hay in that neighborhood. Any doubts that Schneiter might have had when installing the outfit have been rapidly dispelled.

Schneiter's chopped hay has a deep green color and a very fresh appetizing aroma. "I've never had hay for my stock as good as this in this barn before," says Schneiter.

The equipment Schneiter installed consists of a 36-inch propeller fan driven by a 5 hp, 230 volt, single phase electric motor and a crib type air distribution system. The barn's dimensions are 20x40 feet and 20 feet to the eaves.

Oscar Schneiter stands beside the 5 hp motor which drives the 36-inch propeller fan for his crib type barn hay drier. It enabled him to store hay of much higher quality than ever before. And this during weather that prevented field curing of hay.

Harold Williams, owner of a dairy farm near Dalkena, Wash. is very sure that mow hay drying has benefited him. "When I ran out of my own barn cured hay this last winter and had to start feeding field cured baled hay, my cows reacted immediately by dropping their production by one-half can of milk each day," says Williams.

His installation consists of a 5 hp electric driven motor driving a 48 inch propeller type fan, and a platform type of air distribution system. The barn will hold 50 tons of loose hay.

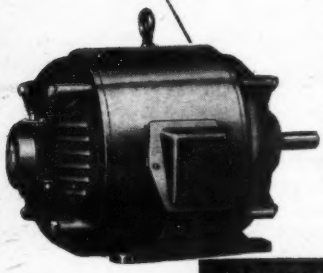
John Hansen, route 4, Spokane, can cure 200 tons of chopped hay in his 30x100 foot hay loft. In Hansen's barn, one large wooden air duct runs nearly the length of the loft. Wooden slatted sections over most of the rest of the air-tight loft floor give an even distribution of the air before it is forced up through the hay. Wilted hay is added to the loft in six to eight foot deep layers and cured for several days. Then another layer is added on top to be cured.

The greatest risk we have in our haying operation comes between the time it is cut in the field and when it is stored in the mow or silo. Bad, rainy weather during this period can render the crop worthless. This risk can be minimized by adequate planning as these farmers have done.

Save Hours of Time and Work With Equipment Driven by Century Motors

You can get your chores done faster, easier and better when you let Century electric motors do much of the hard labor. In growing seasons, that means more time for jobs that make you money. In slack seasons, it means more time for relaxation.

Be sure you get Century motors on your water systems, milking machines, barn cleaners, wood saws, tool grinders, grain elevators, hammer mills, washing machines, hay dryers, refrigeration equipment, ensilage cutters and other farm labor-saving machines.



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Century C MOTORS

Small Fans Used for Cooling Grain

A method of cooling stored grain in which cool air is pulled through the grain into a perforated pipe about six inches in diameter (inserted vertically in the bin) and then out the top of the pipe by a small electric fan, is being tested by USDA engineers. They believe this may be a simple way to prevent damage to grain from moisture "migration" and insects, both of which cost farmers heavily.

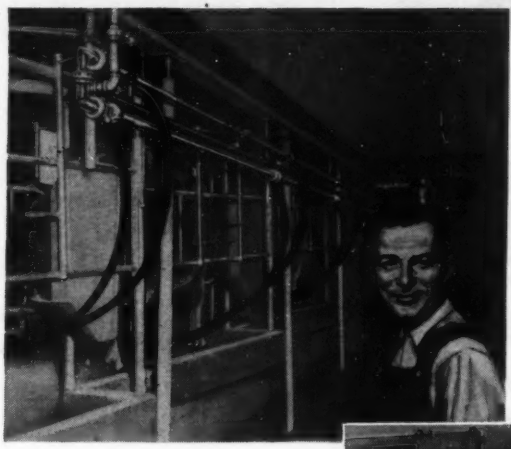
Movement of moisture in fall and winter from the warm center to the cool surface of stored grain is a result of the tendency of warm air to rise. Caking and spoilage occur at the top of the bin where the moisture collects. Both shelled corn and small grains are affected. The tendency of the moist grain to heat also favors multiplication of damaging insects.

In tests conducted in large storages last winter, cooling of the grain by means of the perforated pipes and fans proved highly effective in preventing moisture and insect damage. This winter further tests to prove the practicability of the method in farm-type bins have been under way in Indiana, Nebraska, and Iowa. About 30 large bins have been equipped with the fans and ventilating ducts.

Various sizes of perforated galvanized pipe are under test to determine the best type of installation. Usually about 9 feet of pipe is inserted vertically in the center of the bin, the bottom 6 feet being perforated with hundreds of small slit openings. The pipe is inserted easily in bins already filled by using the suction of a pneumatic conveyor or a household vacuum cleaner to draw grain from the inside of the pipe as it is pushed downward.

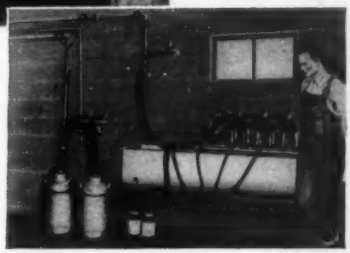
A ⅓ horsepower fan mounted in the pipe draws from 50 to 100 cubic feet of air per minute through the grain and discharges it outside the bin. This air movement is not enough to cool a bin rapidly. In this way it is expected that moisture circulation in the grain can be controlled and hot spots prevented so the insect population will not build

MECHANIZED—ALL THE WAY!



Mechanized... **PIPELINE MILKING**

Just attach the teat cups of the De Laval Combine Milker to the cow—the milker does the rest of the job of carrying, pouring, straining and, if desired, weighing each cow's milk. When milking is finished, your milk is already in the 40-qt. cans or farm tank.



Mechanized... **"IN-PLACE" CLEANING**

When milking is finished you can stand in your milk house and quickly and thoroughly wash and sterilize the De Laval Combine "in-place"—for this job, too, is now completely mechanized.

DE LAVAL COMBINE MILKERS

De Laval Combine Milkers, installed either in the dairy barn along the stanchions or in a separate milking room, provide completely mechanized milking. They milk fast and clean, offering all the advantages of De Laval's famous De Laval Magnetic "Better Milking." The milk is conveyed by vacuum through sanitary glass or stainless steel pipe directly to milk cans or refrigerated farm tanks. On the way, it is automatically filtered and each cow's milk can be individually weighed, if desired.

After milking, the entire system can be quickly and thoroughly washed and sterilized "in-place" *from the milking room!* No more time-consuming "wash-up," thanks to De Laval engineering which has now completely mechanized this part of the job, too!

For pleasanter, more profitable one-man dairy operation, see your local De Laval Dealer or mail coupon today.

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up to damaging numbers.

The cost of making such cooling installations is estimated at $50 to $75 for each bin, including the fan; pipe, connections, installation, and wiring. Some of the bins in the current tests had grain temperatures of 90° to 100° F. during the late summer, but after about four weeks of ventilation the grain at the center and upper surface of the bins in all cases was cool. Definite recommendations on the type of installation that may be advisable for farm use will depend on final outcome of the tests.

Ordinarily farmers level off the grain in their bins when full because the moisture tends to collect in the highest grain surfaces. This makes it impractical to fill bins above the eaves. The fan method of cooling may make it practical to heap the grain up in the center, thus adding 8 to 10 percent to the capacity of a farm bin.

Ten Bale Hay Hoist

It Spots Load in Mow Without Extra Handling

By JOHN F. HILT

On Thomas Lee's farm near Springfield, Ohio, a ¾ ton electric hoist is used for many lifting jobs. Among other things, it is used to handle heavy tractor tires, field spraying equipment, and hay in the mow of the barn.

Mr. Lee bales his hay in the field. It is a simple task to store the bales in his mow with the hoist arrangement he has made. The hoist is suspended from the old hay car. Ropes, attached to the car, provide a means for moving the load along the car track from one end of the barn to the other. When a load of bales is hoisted, the man on the wagon pulls on the rope and moves it into the mow area. There, a second man lowers it into place, and returns the empty hoist and fork to the wagon.

The fork is Mr. Lee's own idea. With it, he can take ten bales at once. It was made from an old grab fork that had three tines on each side. His first step was to cut off the tines. Then he welded angle irons in their place on each side of the fork. To each angle iron he welded five prongs, giving him a total of ten. They are spaced so that each prong bites into the middle of a bale. Thus, when two rows

As the controls ride with the hoist, the man in the mow can set the ten bales down just where he wants them. One rope is pulled to raise, the other to lower. Extra handling of bales, in the mow, is reduced to a minimum.

of bales are placed end to end, the fork covers ten of them. As the lifting force is applied the forks tend to draw the bales together and force the prongs further into the hay.

The hoist gets its power from a long heavy duty, rubber covered extension cord. There are two control ropes, hanging from the hoist, which are used to raise or lower the load. This enables the man in the mow to spot the load just about anywhere he wants to. Each of the two men involved operates the hoist at his end of the run.

Here you can see the angle iron that was welded in place of the tines of the grab fork. Five prongs are welded to each angle iron. They are so spaced that, when spread over two rows of bales, each prong bites into the center of a bale. Ten prongs—ten bales.

Mr. Lee is very well pleased with his electric hoist and the amount of heavy lifting it eliminates on his farm.

Artificial Fog Cools Hens

Fred Berger of Tulare, California lost 350 hens in one day from heat last summer. He decided to irrigate his hens to stop the losses. He installed foggers inside his modern 5,000 hen poultry plant which are turned on automatically whenever the inside temperature goes above 90 degrees. It's cut off when it drops below 90. He did this for a cost of less than $300 not including his own labor. The fogger valves, installed on a water line, operate like the spray used at a vegetable counter in a grocery store. The fog is sprayed directly on the live birds.

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OVERLOAD? It's impossible with a Flinchbaugh! Loads are not pushed—they're slid off—easily and effortlessly. Loads won't pack . . . you use less power. 6 to 8 tons? Your wagon or truck capacity is your only limit!

FAST? No unloader can do the job faster! And with a Flinchbaugh you can adjust unloading speed to any rate you desire. Loads *loosen* as they unload . . . won't clog blower or elevator.

EASY! Mount roller unit with four bolts and you're ready to go! Nothing extra to buy . . . nothing extra to build. No lifting of your power unit . . . it's closed, protected and portable. Attaches instantly at any height.

COSTS? 25,000 users have proven it costs less per load than any other unloader. No costly breakdowns or man-hour holdups. And our exclusive non-spring roller unit increases canvas life 200 to 500%.

Makeshift unloaders are never a bargain. A quality built Flinchbaugh is your best unloader buy for *all size loads* . . . for years and years of trouble-free operation.

A *FREE FOLDER* is yours for the asking. Write today for Catalog No. 18.

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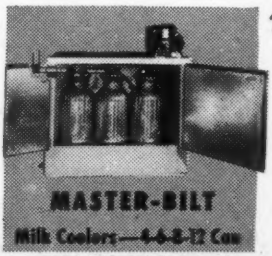

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Also available—popular one gallon size for small families.

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115V, AC, DC, any cycle. Guaranteed UL approved

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Color Grader for Eggs

Agricultural engineers and poultry specialists of the U. S. Department of Agriculture research center at Beltsville, Md., have developed a machine for automatic grading of eggs for color. Although the machine is an experimental unit, it is expected that the ideas and principles used in its development can be incorporated in the design of commercial equipment.

The USDA machine will separate eggs over the full range of normal shell colors ranging from white to dark brown. It has accurately placed eggs in their proper color class in repeated trials, and in only border-line cases has there been a tendency for eggs to go into the wrong tray.

Grading of eggs for color is not a standard practice in the produce trade at present, although some hand grading is done. Hand grading is, of course, costly and this added expense is reflected in prices to consumers or producers.

Color grading of eggs is essential for profitable marketing in some consuming centers, although there is no difference in eating quality whether an egg be white or brown. However, housewives do have very definite color preferences, say USDA specialists. In New York City, for example, white eggs are preferred and bring a premium over brown eggs. Eggs of off-white color also are passed up by housewives in this market. Consumers in Philadelphia and Cleveland also prefer white eggs. On the other hand, the housewives of Boston prefer brown eggs to the extent that they will hardly buy any other kind and will pay a premium for the brown ones.

The egg-color grading machine is based on the finding that brown shells reflect less blue light than white shells. In building the experimental unit, the farm electrification engineers made use of a commercial egg-sizing machine. The eggs are passed over a candling device so that a beam of light is directed onto the shell. Two photoelectric cells—commonly referred to as electric eyes—pick up and measure the reflected light. Variations in the light caused by differences in shell color are amplified and translated into action through a small motor and a system of cams and levers to operate gates that allow the eggs to drop into their proper compartment according to the color class. It is possible to separate the eggs into six color classes in one operation.

A commercial weight grading machine was adapted to sort the eggs by color. It uses photoelectric cells to measure the light reflected by the egg's shell.

EVERSTOPTOTHINK? — A GOSSIP talks about OTHERS; a BORE talks about HIMSELF; but —a BRILLIANT CONVERSATIONALIST talks about YOU.... SODDEN THOUGHT: SOME folks are like SQUIRRELS—they worry TOO much about NUTTIN'.... OVER-"HERD"—"Nice bunch of cows you have there." "Not bunch; you mean HERD." "Heard what?" "Herd of cows." "Sure, I've heard of cows." "No, I mean a cow herd." "What do I care if a cow heard. I NEVER said anything to be ashamed of." ....FASHION: What a HER does to a HEM to get a HIM .... HEALTH HINT DEPT.: If you're THIN, don't eat fast. If you're FAT, don't eat—FAST .... BUNION VERSE: "Corn in the field is a beautiful sight; Corn on the cob is pure delight; Corn in humor appeals to me—But corn on my tootsies, NO, siree!" (Jim Bishop in LAUGH BOOK) .... FLIRT: a fellow who has a long list of cancelled chicks .... "ELKAY" of Birmingham, Ala., writes: "For a gal to get into TV she has to know somebody or have some body." .... While they were engaged: "I love to see you smoke that pipe." After they were married: "I'd just LIKE to SEE you smoke THAT pipe!" .... WANTED—a soap powder that will prevent a TELEPHONE RING in the bathtub .... BULRUSHES: Police raids .... LEGEND: a LIE that has attained the DIGNITY of AGE....RENO: SUE CITY .... SMART HUBBY: one who can play golf, play tennis, play bridge—and play DUMB .... Man's INHUMANITY to man is best exemplified by the married man who urges his bachelor friends to get married .... A Sunday-school teacher was telling her class about the rewards that would go to those people who went to heaven. "And WHO can tell me now who will get the biggest crown in heaven?" "I'm not QUITE sure," replied one little fellow, "but I THINK it would be him with the BIGGEST head." .... KNOWLEDGE and TIMBER shouldn't be used until they are WELL seasoned .... About the ONLY outfit that makes money WITHOUT advertising is the MINT....PARTING THOUGHT —an extended proverb—One swallow doesn't make a summer but one frog can make a SPRING .... Your pun-peddler—DUFFY.

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Boost milk output up to 20% through the use of automatic waterers; butterfat production up 6 to 10%. A big-capacity Myers provides ample pressure for automatic waterers.

Meat production can be increased up to 20% if livestock have water all the time. With a big-capacity Myers, you can easily run lines to pastures so cattle can drink at will.

You can get up to 20% more eggs by using automatic waterers. When you have a big-capacity Myers water system these can be easily added.

Hogs gain up to 9% more weight over hand watering with automatic waterers. A big-capacity Myers will provide plenty of pressure for automatic waterers.

You can get more water dependably and at lower cost per gallon with a Myers water system. A Myers pays for itself quickly through increased farm production. Ask your Myers dealer for a free estimate.

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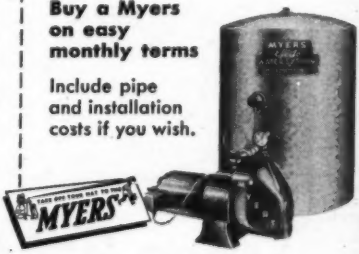
Include pipe and installation costs if you wish.



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NO RUST. NO CORROSION. LONGER SERVICE.
SPARKLING CLEAN HOT WATER ALWAYS!

There's no finer water heater than a Fowler with *glass-lining*. Water never touches metal in a Fowler. Two coats of smooth, durable porcelain are fused-to-steel inside the tank. This glass-lining, developed by Fowler, prevents rust and corrosion; keeps water pure, sparkling clean.

Fowler electric water heater operates efficiently, economically. All models are backed by a 20-year prorated warranty. See Fowler at your dealer's, or write for full information.

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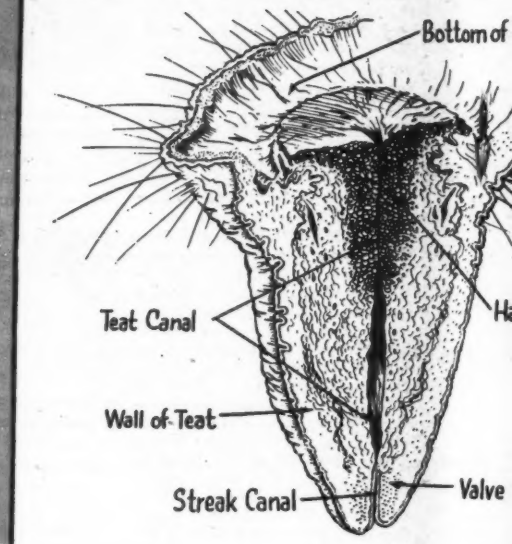
Surge TUG and PULL Holds the Teat Cups Down Where They Belong!



Here is a cross-section drawing of an actual specimen taken from a cow slaughtered in a St. Paul stockyard and preserved by Dr. W. E. Petersen of the University of Minnesota. It shows just one case of how a hard callous growth can develop as a result of irritation to the upper part of the teat. In this case to a point where the flow of milk would be almost entirely restricted.

Surge Teat Cups Don't CREEP!

Surge

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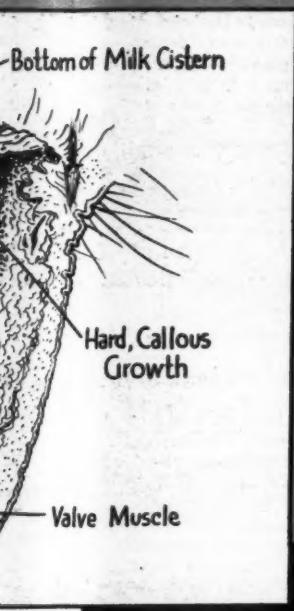

SURGE TEAT CUPS DON'T CREEP

Dr. W. E. Petersen of the University of Minnesota says:

"Tugging with sufficient force upon the teat cups to bring them part way down on the teats caused complete evacuation of the gland cistern. This prevents the closure of the orifice between the gland and teat cisterns."

Whether you prefer a Parlor - a Pipe Line or a Bucket... Surge has them all and you can always be sure that any milking machine that bears the Surge Nameplate does milk with Surge TUG & PULL.

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ELECTRIC FENCE CONTROLLERS

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COUNTY STATE
SAVE TIME AND LABOR

Defeather With Wax

By HARRY E. DREWS

Wax defeathering has been a common practice with commercial poultry men for many years. But it is just as applicable for smaller farm flocks. The same special waxes used by the larger processors are available in smaller quantities. With electric heat which can be easily controlled, defeathering with hot wax is a simple chore.

Here is a suggested method for wax defeathering.

1. Birds are placed head downward in a funnel to eliminate flopping and the throat is cut from the outside without severing the neck. They are allowed to bleed for from 45 seconds to three minutes.

2. Immerse them in water heated to 128 minimum or 160 degrees maximum for a period of from 35 to 70 seconds. The higher temperatures and longer immersion period are used for the less tender and heavier plumaged birds.

Above: An electric plate heater and large bucket works well for heating the special poultry waxes and in maintaining them at proper working temperature. **Right:** The wax is stripped from the birds in a plastic state, carrying with it the remaining feathers and fuzz. The skin will have the bright natural appearance characteristic of fine market poultry.

3. After scalding, the bulk of the feathers can either be removed by hand or by machine. If picking by hand, open up all thick clumps, but leave some feathers on all parts of the carcass.

4. Allow to dry briefly by placing in front of an electric fan.

5. Dip the birds in the melted wax at a temperature of 140° to 150°, holding them by their feet. Move them about a little in the liquid wax to help the wax penetrate to the skin.

6. Dip into water and again into the wax.

7. Drop birds in water tank to chill and semi-harden wax quickly.

8. Strip the wax and the remaining feathers and fuzz from the birds, leaving bright clean unblemished market poultry. The used wax can be reclaimed with little loss.

Turkeys can also be "dry roughed" after "braining" to loosen the feathers in advance of the wax finishing. The method also works well with game birds such as ducks, geese, and pheasants. For freezer storage, after defeathering, the birds should be drawn, and wrapped compactly in moisture-vapor tight material such as polyethylene, or aluminum foil.

For larger operations, electrically heated thermostatically controlled tanks are available. But for occasional use, with an easy-to-read thermometer and electric plate, temperature control is not difficult.

Fruit Box Dumping Rack

By F. LELAND ELAM

Homer Clark of Modesto, California, has taken the vertical lift out of his farming operations wherever possible. His operations require the bulk handling of grapes for transport to wineries, and the bulk shipping of dried fruits such as prunes. However, around the farm the fruit is handled in boxes. It takes a lot of handling to dump enough boxes to fill a truck. To speed the loading, Clark worked out a conveyor with an unusual feature. It eliminates lifting the boxes from a stack for dumping.

Clark's conveyor is electrically driven. The 2 HP motor is mounted about 6′ up from the bottom. It sets on a platform above the conveyor's rubber cord belt to which metal cleats are fastened. Two slender bars extend downward from the motor platform and are fastened to the foot of the conveyor.

When a hand truck of seven boxes of fruit is wheeled up to the conveyor, the trucker allows the top five boxes to fall forward and rest on the two bars. The bars hold the boxes up off the conveyor and all the operator has to do is turn each box slightly to dump the contents.

The two bottom boxes are lifted and their contents dumped into the conveyor. With this method four men can load 25 tons of fruit in 1 hour and 15 minutes. The system eliminates throwing boxes onto a pile from the top of the truck as happened in the past, giving considerable saving on box damage.

Such a method of loading can be used for any other type of fruit that is handled in bulk.

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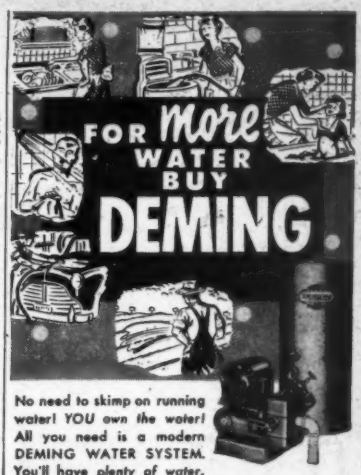

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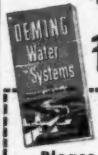

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Melrose Park, Illinois

Electrical Housekeeping

Edited by NAN SHAW, 329 Memorial Union, Ames, Iowa

Clean Clothes Clinic

Tests Show Way to Whiter Washes

New York State homemakers who cooperated in a recent home laundry study indicated the need for simple, time-saving ways to get their wash spotlessly clean.

Home laundering makes clothes last longer. And the use of hotter water and water that has been softened improves the quality of the finished washing.

They reported these items as most frequently coming out spotted or grimy after washing: Aprons, house dresses, children's knit socks and shirts, denim play pants, baby's knit pants, towels, men's shirt collars and cuffs, and men's handkerchiefs.

Busy homemakers often feel that they can't take time for recommended procedures such as going over each soiled article and removing all spots before laundering, or even changing the wash and rinse water for each load of clothes. Only their finest pieces get this attention. Yet in the usual household laundering—one washing in a wringer-type washer followed by two rinses—white clothes often are not washed white enough.

In tests to find how to get white items cleaner and whiter, Miss Lucille Williamson of the Cornell Experiment Station tried: A second wash, then a wash with hotter than usual water, bleaches, and, for hard water, washing in a nonprecipitating water softener. All of these showed improvement over the original laundry method, but those giving best results were the hotter water and the water softener for hard water.

When water is not changed for each load of clothing, white articles may pick up griminess from the soiled water. The study showed that flannel, damask and terrycloth picks up more soil from wash water than smooth fabrics. Washing in hotter water and the use of a water softener both proved helpful in getting these fabrics clean.

Laundering Mixed Washing

After a year's study of laundering conducted in six homes by *Good Housekeeping*, it was concluded that in laundering *mixed* household washing, you cannot get by for long without bleaching. Sheets and pillow cases "yellow" in the areas where the body comes in contact with them. Towels and washclothes grow gray and grimy. Children's clothes and men's shirts don't stay clean after repeated washings.

"If clothes and linens get really dirty, you'd better stick with a chlorine bleach," say these laundry investigators. "If water is in the 120-degree range, as we used it in the wringer washers, chlorine seemed vastly superior to the other bleaches we used. If the load is not really heavily soiled and if you can supply really hot water, you can do a very satisfactory job with a good powdered bleach. The powders are much kinder to color than chlorine, and they have almost no harmful effect on tensile strength and are much easier to handle.

"Chlorine bleach, although outstanding in keeping clothes white, does have some disadvantages. It produces a noticeable though not serious loss of tensile strength, it fades some

Her automatic washer has been "heaven-sent," says Mrs. Carl F. Williams, Ingalls, Arkansas. "Washing for my five girls and my husband was really a job before." With this table top washer she can put a load of clothes in first thing in the morning and have it ready to take out after breakfast. The family laundry used to take a hired girl two days every week. Now Mrs. Williams does it herself any pretty day and the electricity costs just 10c to 15c a month. "It means I don't have a washday any more," she says.

colors, particularly blues. If there is any significant amount of iron in the water, chlorine will give a definite yellowing. In areas where minerals in the water are a problem, a powder bleach is the answer."

Washing Washable Wool

While dry cleaning is a must for most wool clothing, washing is practical and even preferable for many knit wool garments and lightweight flannels and challis, says Margaret Furry, USDA textile chemist. Look for the washable label particularly when choosing woolens for many items in children's wardrobes.

Wash a wool garment before it is deeply soiled, Miss Furry advises.

For best conservation of the wool, use an unbuilt synthetic detergent, the type that manufacturers put out for washing fine fabrics. Although these detergents are not quite so efficient at removing soil as built synthetic detergents and soaps, they are less harmful to wool than the other types. They do a satisfactory job if the wool has not become grimy.

Wash wool very gently in lukewarm suds with the least amount of agitation possible—preferably a soak-wash. Rinse quickly but gently. Soak-wash not longer than 10 minutes.

Dishwashers Curb Disease

By Using Water Too Hot for Hands

True, a boiling water rinse following dishwashing will sterilize eating utensils, but few homemakers go to this trouble. On the other hand, you can depend on an automatic dishwasher with water temperatures of 150° for complete sterilization.

Everyday food utensils may carry nearly every infectious disease, including common colds, influenza, pneumonia, etc. These facts were brought out in a study of hand versus machine dishwashing methods at Michigan State College.

The survey covered tests in households having three to four children. In each test the homemaker was asked to wash her dishes just as though an observer were not present. The washed dishes and the rinsed dishes were sampled for bacteria.

Following are some of the results:

Wash water accumulates bacteria rapidly from the dishes, dish cloths, and the hands of the worker.

Although some dishes entering the wash water may be low in bacteria, they immediately gather more bacteria from the wash water.

A tap water rinse is too short to have any value in killing bacteria, unless the water is boiling.

Most homemakers use temperatures under 150° for rinsing, and under 120° (very hot to the hands) for washing.

In cases where the dishes were immersed in a hot water rinse, and then stacked in a rack to dry, the rinse water was found to be as high as 140° in the beginning, but it had dropped to 108° at the end.

In order to do an effective job of sterilizing by hand methods, it was found that dishes should be rinsed under the tap before being washed. After washing, the dishes should be scalded with boiling water, which kills bacteria in a fraction of a second. However, few families bother to use boiling water if there is a plentiful supply of tap water that feels very hot to the touch.

Hand dishwashing may result in dishes that look clean, but are not sanitary under the microscope. Machine dishwashing, on the other hand, eliminates the human factor to a large extent, and unvarying results can be obtained day after day.

Dishes coming from a dishwasher are virtually free from health hazards. In the machine, the dishes were subjected to 150° water for the normal wash-rinse cycle, which is long enough to kill germs. Following the washing and rinsing action, the drying period of the machine raised the air to 162° for approximately 30 seconds. Machine dishwashing can really help prevent the spread of diseases from one member of the family to another.

The automatic dishwasher is one of the most used pieces of electric equipment in Mrs. Lloyd Diebold's home at Hickory Ridge, Arkansas. There are six young children, and it's reassuring to know that, when there are colds or other infectious diseases in the family, the dishes are sanitary and germ-free.

Freezer Facts and Fallacies

Canning Jars - Yes—Clothes - No

If you have stocks of glass canning jars, you'd like to use them for home freezing, as an economy and convenience. But many homemakers have questioned whether such jars are suited to freezing and whether the glass will break.

Glass is quite durable at freezing temperatures and canning jars can be used to hold fruits in sirup or sugar for freezing, also dry-pack vegetables, meats and poultry, and even apple juice, it was found in a study at the Massachusetts Experiment Station. But there was considerable breakage in freezing brine-packed foods in these glass jars. The six types of canning jars most commonly used in homes were tested.

Most convenient for freezing are the two-piece metal lid closures, especially on wide-mouth jars, because the flat lid allows for stacking in the freezer—and these lids may be re-used for several seasons. Zinc covers became distorted in freezing and some absorbed off-flavors and odors from strong-flavored foods. Bail-type jars can't be stacked, and in the tests took more labor to close. The wide-mouth bail-type jars were difficult to open after freezing.

If you use glass jars for freezing, allow enough headspace for the food to expand—½ inch for pints and 1 inch for quarts. To prevent breakage, jars should stand upright and be placed in the freezer a few at a time with space around each for circulation of air and even freezing. The least breakage occurs in jars placed at the center of the freezing compartment away from the freezer plates. Thawing as well as freezing should be even. Slow thawing in the refrigerator is best, especially for fruit. For more rapid thawing, place jar in cold, slowly running water.

The modern home freezer is designed to save you time, steps, and money in the preparation and storage of food. For best results, it should be used for the purpose for which it was designed.

Should winter clothes be kept in home freezers as a protection against moth damage? Does freezing make nylons last longer? Home frozen wardrobes are not advised for several reasons.

Freezers are designed for food and generally it pays to put these appliances to the use for which they are made. Even if you don't object to storing clothes and food together, it's likely to be poor economy to take up freezer space with clothes during the season for fruits and vegetables. If the freezer is to help save food and contribute to good eating the year around, its space needs to be free for home garden crops or good buys from local growers—or to take advantage of market specials.

To protect clothes against moth damage, USDA entomologists recommend methods that they have tested as practical and convenient in the home, such as the use of DDT sprays or sealing clean clothes in tight bags or other containers with napthalene flakes or paradichlorobenzene crystals. They say it is true that moths are killed by 48 hours at zero F., but this zero treatment gives clothes no protection when they come out of the freezer. It is also true that moths can do no damage to clothes kept below 50 degrees F., but why freeze or even refrigerate them when it is simple to protect them at ordinary room temperature?

Fur experts advise against storing fur garments in home freezers. Fur that is stored folded or rolled for any length of time will come out creased or crushed, and then will need glazing or other treatment to lift and straighten fur fibers. If the pelt freezes stiff, it is likely to crack at folds, especially if any weight is placed on or against it.

Finally, there is the risk of damage from dampness, either in the freezer or later when the fur is thawing out. Dampness may cause aging, fading, loss of lustre or even mildewing. Fur garments in commercial cold storage hang loosely so that air can circulate around them. Both temperature and humidity are carefully regulated to keep fur in best condition. Any fur worth home freezer space would seem to deserve expert commercial storage. Less valuable fur can be protected by home methods used for wool garments.

As for freezing nylon hose to make them last longer, that is a fallacy, the specialists say. Tests by nylon manufacturers show that freezing does not make this fiber more durable.

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Imperial Model IS-106

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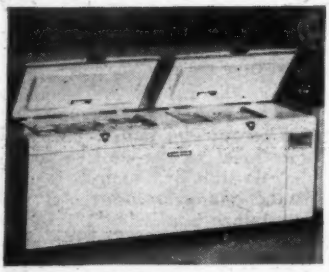

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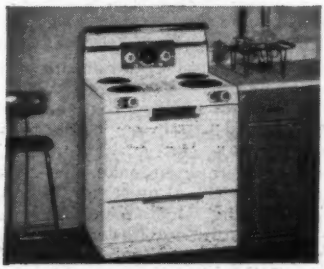

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Vacuum Vs. Broom and Mop

Dr. Pauline Beery Mack, while a professor at Pennsylvania State College, made a

Tests have shown that a vacuum cleaner will pick up nearly 22 times as much dirt as broom and mop methods. And this in about half as much time.

study of housekeeping with and without a vacuum cleaner. She found that a homemaker using broom and mop in a four-room house with scatter rugs worked two hours, and picked up less than an ounce of dirt. Doing the same work with a vacuum cleaner, she worked just a little over an hour and took out over a pound of dirt—almost 22 times as much. She traveled 866 feet less with the cleaner.

In another household with the same floor area, but with large rugs, when using broom and mop the homemaker took a little over 2½ hours, and removed about 1½ ounces of dirt. By using a vacuum cleaner, she worked a little more than 1½ hours and removed nearly 2 pounds of dirt, almost 21 times as much. She traveled 2,915 feet less with the cleaner.

Your vacuum cleaner with its attachments is a good weapon to go dirt hunting and in so doing to keep ahead of moths and insects.

Last summer Gimbel's department store advertised its cold storage for winter clothes, and this is what some of the copy said:

"I am a moth. I am wonderful. I can eat 300 times my weight in fur coats. On an off day, I can lay 100 eggs—300 on a good day. With any luck at all, I'll live for three years. I plan to spend my time eating. I do not like to play tennis, or finger paint, or collect demitasse cups. I just like to eat. I am a good eater. But I am finicky. I do not fancy cotton or linen or silk or rayon or nylon or those miracle fibers. Give me a juicy wool coat or—I swoon—a fur coat any time. I do not like noisy, crowded, brightly lighted places. I like dark, romantic intimate spots. I am not hoity-toity. I do not like mink any better than rabbit – or cashmere any better than wool. I hate cold climates and napthalene and para. I consider them pure mothicide."

Your vacuum cleaner can do an effective job of destroying moths. You can use it to fill a storage closet with moth-destroying vapors, or to spray moth preventives on woolens and furs and to treat rugs and draperies. A vacuum cleaner keeps ahead of the moths.

Grove Acres Ice Cream

By Virginia W. Johnston

Our family of seven enjoys an ice cream recipe which I have worked out for the electric refrigerator. I have tried various types of ice cream mixes and many recipes, including cooked custards. Our family loves ice cream, so it was quite an item on the budget to buy it. On the other hand, if I were to make it I wanted a simple, inexpensive recipe, so quickly and easily made that it could fit into a busy schedule.

I am satisfied that this recipe is tops in every respect—inexpensive, tasty, and nutritious, and simple to make. The electric mixer is a must for the final beating which makes it smooth and fluffy. My 12-year-old daughter makes it regularly. She thinks it is easier to prepare than gelatin desserts. We figure about 5 minutes to mix it up and 5 minutes to beat it.

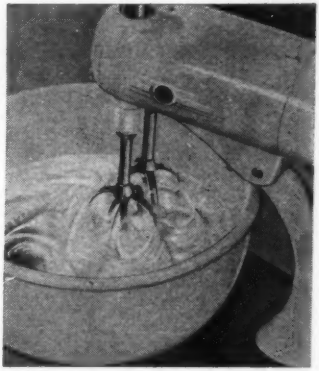
The dried skim milk offers extra goodness for children, especially valuable to those who may not like milk to drink. We are able to obtain dried skim milk at wholesale price from the dairy plant to which we send our milk. Of course, dried milk is generally available at groceries and is considered a good food buy even at retail prices.

Here is the recipe:

1 cup sugar
1 cup dried skim milk
½ teaspoon salt
1 quart milk
1 tablespoon vanilla
2 whole eggs or 4 egg yolks
2 cups cream

Mix dry ingredients in bowl of electric mixer. Add about one cup of the milk and beat with electric mixer until smooth. Add remaining ingredients. Beat until blended. Pour into refrigerator trays and freeze until about ¾ of the mixture is solid. Return to mixer bowl and beat until fluffy. Then put back in trays until solid.

This recipe is flexible. The amounts of sugar, dried milk,



The electric mixer is a must for the final beating which makes it smooth and fluffy.

and the proportion of cream can be decreased to suit the individual taste. If the method is followed the results are good. I don't recommend keeping the ice cream any more than from one meal to the next. Since it has no stabilizer such as is used in commercial products, it will crystallize somewhat on standing.

When you're planning a kitchen, try to allow at least two feet of counter space as a work area near each major appliance—the sink, the range and the refrigerator.

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Pancakes and Bacon For Breakfast

What better self-starter on a spring morning than the tempting smell of pancakes and bacon!

If you cook half a pound of bacon at one time, it's easier to bake it in the oven. Just spread the slices on a rack in a shallow pan. Bake in a hot oven (400°) about 10 minutes. It's easy to turn out beautifully browned slices without a bit of burning.

Of course, if you have a table grill, it's ideal to keep the bacon and pancakes hot in "short order" as needed.

A breakfast of orange juice, pancakes, bacon, maple syrup, and coffee is as quick as it is typically American.

Upside Down Pie

Lots of pies have meringue on top. But here's a new twist —meringue on the bottom!

Watch your family go for Lemon Ambrosia Pie.

Lemon Ambrosia Pie

1½ cups sugar
¼ teaspoon cream of tartar
4 egg whites
4 egg yolks
1 tablespoon finely grated lemon rind
⅛ teaspoon salt
1 pint heavy cream, whipped
3 tablespoons lemon juice

Sift together 1 cup sugar and cream of tartar. Place egg whites in small mixer bowl and beat at a high speed until glossy and stiff. Gradually add sugar mixture while beating, scraping sides and bottom

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of bowl occasionally with rubber scraper, to a stiff meringue. Line bottom and sides of a well-greased 9-inch pie plate with meringue, hollowing out center slightly and being careful not to spread meringue too close to rim. Bake in 275° oven for 1 hour. Cool.

Place egg yolks in small saucepan, beat slightly; blend in ½ cup sugar, lemon juice, lemon rind and salt. Cook on a medium heat until very thick. Remove from unit and cool.

Fold half of whipped cream into lemon-egg mixture. Fill center of meringue shell. Spread remaining whipped cream on top. Chill 24 hours in refrigerator before serving. Makes one 9-inch pie.

Veal is Tender

When you're planning the meat in your menus don't overlook the versatility of veal.

Veal requires long, slow cooking at a low temperature to the well-done stage. Veal can be roasted, braised or cooked in water as veal stew; it should not be broiled, panbroiled or seared quickly.

Here is a recipe using veal shoulder.

Veal and Noodles

1 pound veal shoulder (excluding bone)
¼ cup shortening
2 tablespoons flour
3 teaspoons salt
¼ teaspoon pepper
2 teaspoons paprika
9 cups water
1 teaspoon Worcestershire sauce
2 cups peeled small onions
1 cup ¼-inch slices carrots
½ cup diced celery
2 green peppers
10 ounces medium noodles (about 2-2½ cups)
2 tablespoons butter

Cut veal in 1-inch cubes. Melt shortening in large skillet on high heat. Add meat and brown lightly. Combine flour, 2 teaspoons salt, pepper and paprika,

sprinkle over meat and stir until blended. Add 1 cup water, Worcestershire sauce, onions, carrots and celery. Cover and when steaming, switch to low heat. Cook 25 minutes. After meat mixture has cooked 15 minutes, place 2 quarts water and 1 teaspoon salt in 3-quart saucepan. Bring to boil on high heat. Add noodles gradually to keep water boiling. Switch to medium heat and boil 10-12 minutes. Drain noodles, add butter and let melt. Toss noodles lightly to mix with butter. Remove core and cut green peppers in ½-inch strips. Add to meat mixture in skillet. Cover and cook 5-10 minutes longer until green peppers are tender. Serve meat mixture over buttered noodles. Makes 6 servings.

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There's One Near You to Serve You

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Coal-Wood-Electric Baking with DIALED Heat

Just set the dial at the oven temperature desired. Electric heat is added automatically to the coal-wood heat to *hold* oven at the heat set! Takes the guesswork out of baking. No more constant fire-watching. Cooking top is half coal-wood, and half electric or gas. See your Monarch dealer or write

Monarch SINCE 1896

MONARCH RANGE CO.
7023 Lake Street
Beaver Dam, Wis.

for Junior Partners

HI—

The street is being torn up in front of our building so the power company can install the wires that will bring us alternating current. Does that seem strange to you? Man's use of electricity isn't very old. And where it was first installed, it was direct current. The widespread transmission of electricity was only possible after the transformer was developed and alternating current could be used. After that, of course, it grew rapidly and all kinds of equipment was developed to make use of it. But such equipment wouldn't work on direct current. So, in many city areas people have been looking forward to the arrival of alternating current so that they could use modern electrical equipment just like you have in your home.

Kenneth V. Anderson

Light-a-Light Transformer

By ROBERT T. SCOTT

Some tricks with electricity are as interesting as the best tricks of a magician. For instance, lighting a bulb without connecting it to a battery or plugging it into a circuit. Yes—it's possible!

Here are the materials you need for the trick: a large iron bolt, a flashlight bulb, a dry cell battery, a large, rough file and bell wire.

Wrap 150 turns of bell wire into a coil at one end of the bolt. Leave about four inches of wire at the beginning and end of the coil. Remove about one-half inch of insulation and solder the wires from the coil to a flashlight bulb. One wire should be soldered to the side of the bulb base, and the other wire to the tip of the base. Be careful not to overheat the base of the bulb.

Wrap 25 turns of bell wire around the bolt beside the first coil. Leave about 12 inches of wire at the beginning and at the end of this coil. You may want to leave a space between the two coils so you can show there are no connecting wires. Remove about one-half inch of insulation from the wires and connect one end of the coil to one terminal of the battery.

Cut another piece of bell wire about 12 inches long. Remove enough insulation from one end of the wire to connect it to the handle of the file. Be sure this connection is as tight as you can make it without breaking the wire. Remove enough insulation from the other end of this wire to connect it to the other battery terminal.

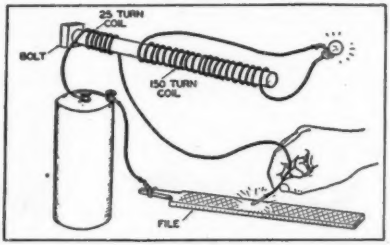
You can now amaze your friends by lighting the bulb—even though it is not connected to the battery. Rub the loose wire from the small coil very rapidly up and down the file, using short, fast strokes. The flashlight bulb will glow brightly.

If you are asked how this "magic" takes place, you can explain that this trick works on the same principle as a transformer. Rubbing the wire on the file causes current to start and stop flowing in the 25 turns of wire. When current flows in a wire, a magnetic field is created around the wire. Every time the current starts flowing in the smaller coil a magnetic field builds up—just as a balloon expands when you blow it up. When the current stops flowing in the coil the magnetic field collapses—just as a balloon collapses when you let the air out. This magnetic field building up and collapsing moves past the other coil and by a process known as induction, causes a current to flow in the 150 turns of wire. This current—called an induced current—lights the flashlight bulb.

Transformers are a vital part of your electric company's system for delivering electric power to your home and farm. They are used to step up the voltage so electric power can be sent over many miles of wire. Then, before electric power is delivered to your home, a transformer is used to reduce the voltage to the 115 and 230 volts needed for standard equipment.

Mounted on a pole, somewhere near your house, is the power supplier's transformer. It steps-down the high voltage, needed for transmitting electricity over long distances, to the conventional 115 and 230 volts.

Each transformer has a primary coil and a secondary coil. In your light-a-light transformer the small coil—where the electric energy is put into the transformer—is the primary. The larger coil—where electric energy is tapped off for the bulb—is the secondary. If there are more turns of wire in the primary coil than in the secondary, the trans-



From this diagram you can see how the primary coil circuit is completed by touching the wire end to the file. By rubbing the end rapidly along the file the current is repeatedly interrupted. This results in an induced current in the secondary coil which lights the lamp even though the lamp is not connected to the battery.

former steps the voltage down. If there are more turns in the secondary than in the primary, the transformer steps the voltage up. The transformer you have built is a step-up transformer.

Hold the wire from your smaller coil on the file for just a moment. The bulb will not light. The battery delivers direct current—current that flows in one direction and does not stop or start unless the circuit is broken. The magnetic field is around the coil when direct current flows through it, but it does not build up and collapse except when the contact is first made and when it is broken. When you rub the wire rapidly over the file, the current starts and stops in the primary coil and the magnetic field builds up and collapses and moves past the secondary coil.

The current flowing in the electric circuits in your home and on your farm, and all through the power company lines, is alternating current. The current flows first in one direction and then in the other. Thus in a transformer on the power company's lines the magnetic field builds up as the current flows in one direction and collapses when the current stops flowing in that direction. When the current flow is reversed the magnetic field builds up around the coil, only to collapse again when the current stops flowing in that direction.

Say slowly: "One-one-hundred."

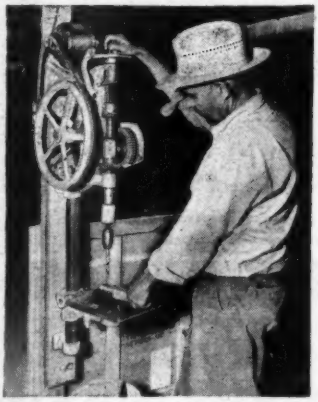
That takes you one second, and the current flowed one way and then the other 60 times. That is what is meant by 60-cycle alternating current.

Your "transformer" for your light-a-light trick is not engineered as carefully as the transformers used by your power supplier. You cannot move the wire along the file fast enough and smoothly enough to produce a 60-cycle alternating current. But, your little trick works on the same principle as the transformer that is on a pole somewhere near your house, and the transformer near the generating station that steps the voltage up to many thousands of volts.

Electrified Hand Drill

Do you want to get away from cranking a post drill?

It can be done by converting it for operation by an electric motor. Only two steps are necessary. First, cut a groove in the



large flywheel the correct size to take a Vee belt. If the flywheel surface is flat a Vee belt will stay on it without a groove. Then mount an electric motor—a ¼ HP one will do the job—above the drill so that the belt pulley on the motor lines up with the flywheel. Then install the belt, snap the switch, and let her go. That is the way Carl Schneider, Fresno, California farmer did it in his shop, and it works 100%.

Now YEAR 'ROUND OUTSIDE WATER SERVICE

IOWA FREEZELESS HYDRANTS

Have running water to your stock tank all year 'round . . . just raise the handle on the Woodford Iowa Freezeless Hydrant . . . and save time, work, MONEY:

- "Positive" lock lever cuts off water below frost line.
- Automatically drains hydrant case each time.
- Economical—simple, sturdy construction; fewer wearing parts; low upkeep.

Easy to install on ANY farm water system. Ask your local dealer NOW or write today for free circular.

WOODFORD HYDRANT CO., Des Moines 17, Iowa

BE SURE TO SEE THE *New* CONVERTIBLE JET PUMP

You use the same pump unit tank and tank fittings to pump from shallow or deep wells. Aermotor dealers have factory packaged parts to make the conversion easily and inexpensively.

Your Power Company can put you in touch with an AERMOTOR DEALER

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Save on Feed
SAVE TIME AND MONEY...
Roll feed grain at home with a WOOD'S GRAIN ROLLER for ½ to 1c per cwt. Thousands in use. Electric or belt drive. Write for literature.

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AUTOMATIC
Poultry
WATERING FOUNTAIN

Each fountain will serve 400 birds. All Brass—Sturdy—Foolproof—Time tested—pays for itself in labor saved—Has anti-freeze protection, optional. Send for details today!

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MORE COVERAGE PER DOLLAR

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NO. 80 SPECIAL

RAIN BIRD Sprinklers

Proved by world-wide use throughout the years, and improved by continuing research, Rain Bird leads the sprinkler industry because it delivers more coverage per dollar on large and small acreage alike.

There's a Rain Bird sprinkler for every agricultural requirement, with 19 different models ranging in size from 1½ G.P.M. at 3 pounds pressure to 610 G.P.M. at 120 pounds pressure.

If you have a special problem our research department is at your service.

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RAINY SPRINKLER SALES
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By using a fast, efficient Booms Wagon Unloader, you can easily handle 5 tons of any crop in just 7 minutes. Simply attach this tested, proved unit to any flat-bed wagon; team it with any blower, elevator or conveyor; and hook it up to either gas or electric power. It will never tip, tilt or turn over . . . and there are two running speeds for constant load control. See your dealer or write for an illustrated folder.

Booms SILO CO.
Harbor Beach, Mich.
In Business Since 1929

Questions and Answers

Value of Irrigation

▶**Question:** *In your opinion would irrigation pay for dairy farming on a 100 acre farm?* E. S., Wis.

▶**Answer:** Whether or not irrigation will pay on a dairy farm of 100 acres will depend on availability of water and the quality of the land. It is worthy of serious consideration. More and more farmers are recognizing the fact that irrigated pasture can be one of the most profitable crops on a dairy farm. Besides having the crop harvested by the cattle, rotational grazing on irrigated pasture can extend the grazing season and use less land to do it. If sufficient acreage is used, excellent grass silage may be made from pasture clippings.

The University of California has conducted studies which show that 100 pounds of total digestible nutrients from an irrigated pasture can be supplied for 79c. To get 100 pounds of TDN from hay for that figure, the hay would have to be purchased for about $8 per ton.

Motor for Ensilage Cutter

▶**Question:** *I would like some information on using a 7½ HP electric motor to drive an ensilage cutter for making grass silage. We have the motor but need help in buying switch, starter, pulleys, etc.* S. E. H., Pa.

▶**Answer:** A 7½ HP motor will do an excellent job of operating an ensilage cutter. The blower speed, because of the reserve power and constant speed of the electric motor, may be lowered. A speed of from 400 to 600 revolutions per minute is satisfactory. The blower end of the cutter uses the greatest amount of power. Do not blow the ensilage higher than required to put it in the silo or you will waste power. Efficiency can be kept high by keeping a close adjustment of the fan paddles to the blower housing and by keeping the cutter knives sharp. They should be adjusted as close to the shear plate as possible. The blower pipe should run in a vertical line from the blower housing rather than at an angle.

A double Vee pulley on the motor can drive the flat pulley on the

SHEAR YOUR OWN SHEEP
Sunbeam
with STEWART famous
SHEARMASTER

Fast, easy-to-use electric Shearmaster removes fleece in a few minutes. Gets 10% more wool than hand blades from same sheep. Retains maximum length of wool fibre, wool grades higher—brings more money. Powerful, cool-running motor inside special EASY-GRIP handle. Rugged, built-in durability. Has year 'round use for shearing the flock, tagging, crutching, removing wool from dead sheep, etc. $46.75. (Colorado and West $47.00). Animal clipping, grooming brush and drill head attachments available for use on Shearmaster. Write for bulletin "Harvesting the Farm Flock Wool Crop."

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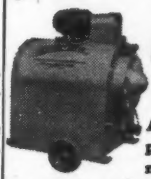
DRY CROPS QUICKLY!
WITH American
ALL-CROP DRYER

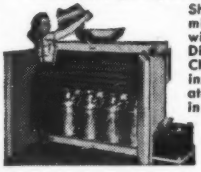


•SEEDS •GRAINS •HAY
•ALL FARM CROPS

ALL-CROP DRYERS prepare your crops for top market prices or safe storage. Find out how you can increase your profits with this equipment.

American CROP DRYING EQ. CO
CRYSTAL LAKE ILLINOIS

SHOCK-COOL MILK IN ONE MINUTE
(As shown Page 11, December 1952 issue)



Shock-Cool your milk minutes after milking with the new Aeroflow DRY COLD Milk Cooler. Checks bacteria growth instantly! Filters, aerates, shock-cools, stores in one operation. No Water! No lifting!

Write for new folder. Dealership now available.

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Manufacturers of Farm Equipment 59 Years
1224 No. Fifteenth St. • St. Louis 6, Mo.

You Can afford running water!

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NEW HYDRO-JET PUMP

as low as **$99.75**

(f. o. b. Dubuque)

Hydro-Jet Pump, Fig. 3025, with vertical tank piped for deep well service.

And it really does the job! Simply, ruggedly built — convertible for deep or shallow wells. Save time and labor, get the low cost HYDRO-JET. Write today.

Send us a post card for details, Bulletin 3025.

A. Y. McDONALD MFG. CO.

Dubuque, Iowa

Pumps, Brass Goods
Oil Equipment

EST. 1856 McDonald

RUST DOESN'T COME OUT OF YOUR CLOTHES

LET US TAKE IT OUT OF THE WATER!

A DIAMOND Iron Removal Filter removes rust and other matter **before** it reaches your clothes. Cost is low. Send for free booklet

Oshkosh Filter & Softener Co.
Oshkosh, Wisconsin

BADGER BARN CLEANER

LEADS AGAIN

TIME-TESTED ON THOUSANDS OF FARMS

1952 Models featuring a new high test chain for large barns. A new low cost cleaner for small barns.

WRITE FOR INFORMATION

INSTALLATION AND SERVICE SPECIALISTS IN ALL DAIRY SECTIONS OF U.S.A. AND CANADA

BADGER-NORTHLAND INC.
BOX 31 DEPT. U KAUKAUNA, WIS.

cutter through Vee belts without modification. The size of the Vee pulley will be determined by the size of the pulley on the ensilage cutter. Place the motor close to the flat pulley of the blower.

Use a motor-starting switch with overload protection built in. A heavy-duty rubber-covered cord with a heavy-duty polarized plug will be needed to connect the motor switch with a heavy-duty polarized outlet in the adjacent building. Your local electrician can provide you with this equipment.

Hay Finisher Plan

▶**Question:** *My hay mow is 16 feet wide and 32 feet long. Could you give me information on the installation of a mow finisher? I do not want to use heat.*

W. N. D., Pennsylvania

▶**Answer:** A 16′ by 32′ mow can be handled by a fan driven by a 3 H.P. motor. Such a fan would be approximately 2½′ in diameter. The duct for such a system should run lengthwise in the mow. The mow floor should be airtight and the duct should extend to within 6 feet of one end of the mow. For a 16 foot mow we would recommend the use of a slatted duct. This could be either rectangular in cross section, measuring 3′ by 4′, or it can be triangular in cross section with a 4′ width at the base and a 5′ height. The blower should be located at one end of the duct with an air inlet from outside the barn. This air inlet should be on the sunny side of the barn if possible. Although the duct is slatted, it should be solid for 6 feet from the wall where the air inlet to the blower is located. The purpose of this is so that the air will not escape at this point but be forced to travel up through the hay. For the same reason, the duct stops 6 feet from the other end of the mow. Be sure there are plenty of openings in the peak of the barn, either in the form of windows or hay doors, to provide easy exhaust for the air that is blown up through the hay. Before making such an installation contact the Rural Representative of your Power Supplier. He can give you helpful advice in planning the system and making sure that you have proper wiring so that the system will work with full efficiency.

Three out of four traffic accidents happen in clear weather on dry roads.

The hour from six to seven P.M. is the most dangerous of the day or night in traffic.

VOGEL

FROST-PROOF HYDRANT

- Will never freeze when properly installed.
- Running water available all year 'round.
- Reduces fire hazard.
- Increases operating efficiency.
- Over a million Vogel Frost-Proof Closets and Hydrants have been sold.

The handle in this position shows you that the water is positively shut off. A leaking hydrant is sure to freeze in winter.

For information, see your nearest Plumbing Supply House — or if you write us direct, state the county in which you are located.

JOSEPH A. VOGEL CO. WILMINGTON 99 DELAWARE

WHY PAY MORE for an ELECTRIC SHAVER?

WHISK AWAY EVEN A 7 DAY BEARD WITH THE WHISKER ELECTRIC SHAVER

Precision-built, with .002" thin blade that shaves all beards smoothly, closely.

Whether you shave once a day, or once a week you'll like WhiskER Electric Shaver. Its clipper-like blade is designed for all beards, is definitely less irritating. 110v AC model; no TV or radio interference. See your barber or dealer. If he cannot supply you, send $15.95—we pay postage; or send $2, you pay balance plus postage and COD. 10-day money-back guarantee.

CADET ELECTRIC HAIR CLIPPER
Cuts hair, removes superfluous hair from legs and under arms. The same fine quality clipper used and sold in many beauty shops. See your shop, or dealer. If you prefer, send $10.95—we pay postage; or $2, you pay postman balance, postage and C.O.D.

ELECTRO TOOL CORP., Dept. W463-D, Racine, Wis.

What Would You Say?

CONTEST

Here is a contest the whole family can enjoy. Cash Prizes will be awarded for the best suggestion for a fourth line to complete the verse at the bottom of this page. Lots of fun and you may win $25 cash.

RULES—APRIL CONTEST

Seven cash prizes will be awarded for the best last line to complete the verse in the coupon below. Your suggestion should rhyme with the second line.

The first prize will be $25 cash; the second prize $10. In addition, five consolation prizes of $3 each will be awarded for the best line furnished.

In case of a tie, each winning contestant will receive the full cash prize to which he or she is entitled.

All members of the farm family to whom this magazine was sent may enter but each contestant may submit only one line.

Question "A" must be answered.

Entries must be sent to the Contest Editor, ELECTRICITY ON THE FARM Magazine, 8 So. Dearborn Street, Chicago 3, Ill. before May 10.

The decision of the judges is final and all entries become the property of ELECTRICITY ON THE FARM Magazine.

Winning names and entries will be announced in the Aug.-Sept. issue.

Send your entry on the coupon or make out a similar form on a plain sheet of paper or government postcard.

If you want to freeze some food
Or boil, or broil or stew it
Electric current you'll conclude

? ? ? ? ? ?

My suggestion for a fourth line to the above verse is:

.....

(A) Are you within range of television?..... Do you own a television receiver?..... What Make?.....

My name is.....

R.F.D.....Post Office.....

County.....State.....

Awards for January Contest

When roads are slippery and weather
is mean
We don't need to worry a bit
To supply our cuisine on our freezer
we lean

? ? ? ? ? ?

The Winning Fourth Lines

FIRST PRIZE—$25 CASH

"The weather with watts we outwit."
Dorothy Koehn
R. 2, Boyd, Wisconsin

SECOND PRIZE—$10 CASH

"Darn handy you'll have to admit."
Tony Brecka
R. 4, Baraboo, Wisc.

Five Consolation Prizes—$3 Each

"All trouble and travel omit!"
Robert J. Kuehn
RFD 1, Elk Point, S. D.

"This food cache choice menus permit."
Albert Larsson
c/o Harold Starrett
Bagley, Minn.

"And our budget shows no deficit."
Mrs. Walter R. White
Box 22, Westtown, Pa.

"And brag of our foresight and wit."
Mrs. C. E. Larsen
RFD 1, Suring, Wisc.

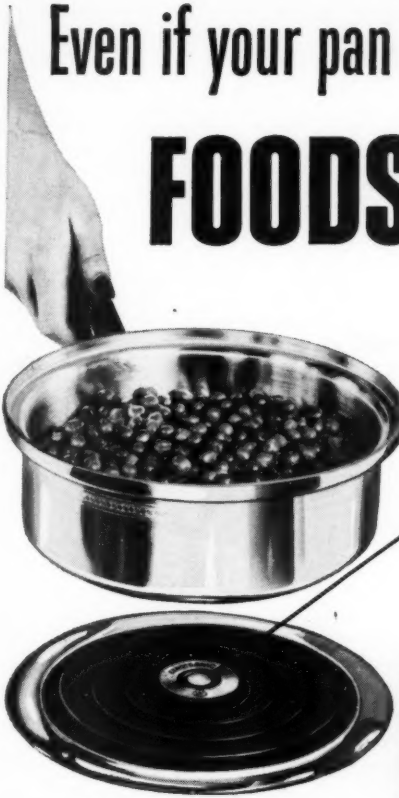
"The contents a feast will permit."
Miss Ruth Prosser
Box 302, Wausau, Wisc.

Honorable Mention

Mr. James Bechtold, Davis, Illinois, Wendell Brown, So. Portland, Maine, Hayne Jones, Tamassee, S. C., Mrs. J. L. Morrison, Greensboro, Ala., Mrs. Myron Hayes, DeGraff, Ohio, Mrs. W. E. Miller, Logan, Kansas, John Riddle, Colfax, Iowa, Anne Sorcinella, West Middlesex, Pa., Mrs. Hazel Starett, Bagley, Minn., Mrs. Louise Wendt, West Henrietta, N. Y., Mr. James Weigel, Jr., Mt. Clemens, Mich., Mollie H. Atchinson Wright, Gower, Missouri.

Even if your pan boils dry...

FOODS CAN'T BURN!



New Westinghouse Automatic Unit has amazing Electronic Eye that controls the cooking temperature

THE ELECTRONIC EYE in the center of the Automatic Corox Unit contacts the bottom of your pan to both measure and control the temperature of the food. For example, when cooking vegetables, you set the control only once. The Electronic Eye then speeds the food to cooking temperature and holds it at that same temperature indefinitely. Even if your pan boils dry, FOODS CAN'T BURN. The Automatic Corox Unit with Electronic Eye ends pot watching forever . . .

- **Keeps food at the right cooking temperature—always! Foods can't burn.**
- **Stops pot scouring! No burned foods or scorched pans to soak or scrape.**
- **Will never overheat! Danger from flaming grease and damaging smoke is ended.**
- **Uses only enough current to cook properly!**

PLUS Miracle-Sealed Oven . . . Super Corox Unit . . . Two-level Speed Cooker.

Ask your nearby retailer about the 1953 Westinghouse Commander Speed-Electric Range with Electronic Eye. Westinghouse Electric Corporation, Mansfield, Ohio.

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See our three popular TV shows every week..
FREEDOM RINGS.. Westinghouse STUDIO ONE.. MEET BETTY FURNESS

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Agric. Teacher Trainer,
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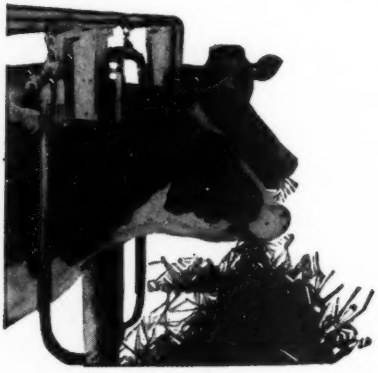
24 W. 40th St., New York 18, N. Y.

BARN CURE HAY

with an

ELECTRIC-DRIVEN HAY DRYER



- You can get your first cutting in off the field at just the right stage of maturity, when protein content is greatest . . . get a better second cutting.
- By finishing hay in your mow, you avoid the leaf-shattering and protein loss that lowers feeding value.
- Avoid crop damage and extra labor caused by unpredictable weather . . . increase your milk production . . . save on supplementary feed costs.
- The forced-air circulation of an *Electric* hay drying system removes moisture safely and without excessive cost.

OKLAHOMA GAS AND ELECTRIC COMPANY

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